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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/756,213

01/12/2004

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EXAMINER

KRUSE, DAVID H

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

05/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/756,213	Applicant(s) GOOD ET AL.	
	Examiner David H. Kruse	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/26/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

STATUS OF THE APPLICATION

1. This Office action is in response to the Amendment and Remarks filed on 26 February 2007.
2. The Examiner has accepted the corrected drawings.
3. Applicants' response has obviated the objections to the specification and declaration.
4. The objections to the claims and the rejection of record under 35 USC § 112, second paragraph are now moot, said claims have been cancelled.
5. Those rejections of record not specifically addressed in this Office action are now moot in view of Applicants' cancellation of claims 1-32 in response to the previous Office action.
6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

7. Claims 34 and 36 are objected to because of the following informalities:

At claim 34, it is unclear if the claimed seed is transgenic. It is suggested that -- comprising said transgene -- be inserted at the end of the claim.

At claim 35, line 1, "generating" should be amended to -- producing -- as a matter of form.

Appropriate correction is required.

Double Patenting

8. Claims 33-51 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 5 and 9 of U.S. Patent No. 6,084,153. Although the conflicting claims are not identical, they are not patentably distinct from each other because the btg-26 promoter taught in the '153 Patent operably linked to the nitrogen assimilation/metabolism enzyme and method of using renders obvious the invention of the instant claims. This rejection is repeated for the reason of record as set forth in the last Office action mailed 24 August 2006. Applicant's arguments filed 26 February 2007 have been fully considered but they are not persuasive.

Applicants argues that claims 5 and 9 of the issued '153 Patent fail to teach the elements of the presently pending claims (page 11 of the Remarks). This argument is not found to be persuasive. The Examiner notes that the subject matter of the instant claims was not restricted from the issued claims in parent application 08/599,968 (the '153 Patent). It appears that no administrative delay occurred in the '153 Patent and there is no evidence that applicant could not have filed the claims in a single application, as all of the claim limitations had been disclosed in the '153 Patent. See in particular the btg-26 promoter of SEQ ID NO: 1 and the barley AlaAT of SEQ ID NO: 2, both taught in the '153 patent.

9. Claims 42, 44-48, 50 and 51 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 22 of copending Application No. 11/644,321. Although the conflicting claims are not identical,

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they are not patentably distinct from each other because the construct of copending claim 22 directed to a construct comprising a monocot antiquitin promoter (having root epidermis-specific promoter function) operably linked to a nucleic acid encoding alanine aminotransferase renders obvious the instant claims directed to transforming a plant with such a construct to produce a transformed plant. In addition, the copending application teaches that the rice antiquitin promoter is a homologue of the btg26 promoter taught in the instant application (see page 23 of the copending application).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. This new rejection is made in view of the actions of at least one common inventor in filing of a new application after the mailing of the previous Office action.

Claim Rejections - 35 USC § 112

10. Claims 41, 43 and 51 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims recite, "has a nucleotide sequence of", which because Applicants use the indefinite article of language in this phrase, the metes and bounds of the claims are unclear. It is unclear if the phrase is directed to the entire nucleotide sequence, or encompasses fragments found in any root epidermis-specific promoter or encodes an alanine aminotransferase.

Claim Rejections - 35 USC § 103

11. Claims 42, 44-48, 50 and 51 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Coruzzi *et al* (U.S. Patent 5,955,651, published 21 September 1999, filed 7 June 1995 and claims priority as a divisional of application No. 08/319,176 filed 6 October 1994) in view of Muench *et al* (1994), and Suzuki *et al* (January 1993, Plant Molecular Biology 21: 109-119).

Coruzzi *et al* teach transgenic plants comprising constructs encoding enzymes involved in amino acid synthesis (column 10, lines 46-57). Coruzzi *et al* teach a method of producing a genetically transformed plant with enhanced nitrogen assimilation/metabolism by transforming said plant with constructs encoding enzymes involved in amino acid synthesis. Coruzzi *et al* teach that the construct can encode an enzyme involved in the assimilation of ammonia into amino acids or in the utilization of these same amino acids in biosynthetic reactions (column 10, lines 48-51). Coruzzi *et al* teaches that it was known in the art at the time of Applicant's invention that overexpression of alfalfa glutamine synthetase in a transgenic plant results in an increase in total soluble protein content and increased growth (column 5, left column, 1st paragraph). Coruzzi teaches that the steady flow of nitrogen from ammonia to asparagine in this [nitrogen assimilatory] pathway depends upon the recycling of glutamate and α -ketoglutarate (column 2, 2nd paragraph). The fact that alanine aminotransferase recycles glutamate and α -ketoglutarate would have been common knowledge to those of ordinary skill in this art.

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Coruzzi *et al* do not teach a transgenic plant transformed with a nucleic acid encoding an alanine aminotransferase (AlaAT) polypeptide or specifically using a root-epidermis-specific promoter.

Muench *et al* teach a nucleic acid encoding a barley AlaAT-2 polypeptide, said nucleic acid having the sequence of Applicants' SEQ ID NO: 2 (see page 420, Fig. 1). Muench *et al* teach that production of the amino acid alanine is catalyzed by the enzyme alanine aminotransferase (AlaAT) (page 417, right column). Muench *et al* teach that the barley AlaAT-2 polypeptide is preferentially expressed in roots and expression increases under hypoxia (low oxygen) conditions. See page 423, right column to page 424, left column.

Suzuki *et al* teach a root-epidermis-specific promoter from the SbPRP1 soybean gene that can be used to produce high expression of a transgene in root epidermis cells (see for example page 116, right column, 3rd paragraph). Suzuki *et al* also teach that other root-specific promoters were known in the art (page 117, left column, 2nd paragraph).

Applicants state that since the rejected claims have been cancelled, the rejection is moot (page 10, 3rd paragraph of the Remarks). Although the instant rejection has been modified, it remains relevant to the instant new claims.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP §

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706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR § 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

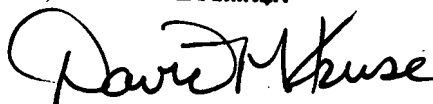
13. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (571) 272-0799. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The central FAX number for official correspondence is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (571) 272-1600.

DAVID H. KRUSE, PH.D.
PRIMARY EXAMINER

A handwritten signature in black ink that reads "David H. Kruse". The signature is written in a cursive style with a large initial "D" and "K".

David H. Kruse, Ph.D.
17 May 2007

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15. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

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